5820

JOURNAL OF THE ROYAL STATISTICAL SOCIETY (SERIES C)

Editorial Board

C. CHATFIELD
Joint Editor

V. BARNETT
Joint Editor

J. A. NELDER
Chairman

C. J. CLARK

B. E. COOPER

R. D. ELSTON

I. D. HILL

J. LUCKMAN

W. S. PAIGE

H. R. SIMPSON
Algorithm Editor

E. JOYCE SNELL

D. N. SPARKS
Review Editor

J. TAYLOR

G. WATTS

Applied Statistics

Volume 25, 1976

ROYAL STATISTICAL SOCIETY
25 Enford Street, London W1H 2BH

CONTENTS

Volume 25, 1976

No. 1

		Page
The efficiency of stratified sampling in the estimation of parameters for a bivariate normal population	*G. H. Brown*	1
A graphical estimate of the population mean from censored normal data	*S. Selvin*	8
The Box–Müller method for generating pseudo-random normal deviates	*E. R. Golder and J. G. Settle*	12
Combining two-tailed rank-correlation statistics	*T. P. Hutchinson*	21
Customers of the LEP	*P. Charlton and A. S. C. Ehrenberg*	26
Markov properties of sequences of behaviours	*B. J. T. Morgan*	31
Screening effects in multidimensional contingency tables	*M. B. Brown*	37
Convenient probability plotting positions for the normal distribution	*V. Barnett*	47
Point estimation of the parameters of piecewise regression models	*D. M. Hawkins*	51

Miscellanea

A stochastic point-process model for the occurrence of major freezes in Lake Constance	*V. W. Steinijans*	58
Mixed-up values in experiments	*J. A. John and S. M. Lewis*	61
Selection of defining contrasts in two-level experiments	*A. A. Greenfield*	64

Letter to the Editors 68

Book Reviews

Statistical Handbook for Non-statisticians. By *Ray Meddis*	69
Introduction to Optimization Methods. By *P. R. Adby and M. A. H. Dempster*	69
Clustering Algorithms. By *J. A. Hartigan*	70
Measurement in the Social Sciences. By *H. M. Blalock*	70
Data Analysis for Scientists and Engineers. By *S. L. Meyer*	71
Statistical Analysis for Business Decisions. By *W. A. Spurr and C. P. Bonini*	71
Biostatistics: a Foundation for Analysis in the Health Sciences. By *W. W. Daniel*	72
Essentials of Statistics in Marketing. By *C. S. Greensted, A. K. S. Jardine and J. D. MacFarlane*	73
Design of Experiments: a Realistic Approach. By *V. L. Anderson and R. A. McLean*	73
Applied Statistics. Edited by *R. P. Gupta*	74

Statistical Algorithms AS93–AS96

AS93 A generator for the null distribution of the Ansari–Bradley *W*-statistic *L. C. Dinneen and B. C. Blakesley*; AS94 Coefficients of the zonal polynomials *Mara L. McLaren*; AS95 Maximum-likelihood estimation of location and scale parameters from grouped data *R. T. Benn and S. Sidebottom*; AS96 A simple algorithm for scaling graphs *J. A. Nelder*; ASR14 A remark on AS74 "*L*1-norm fit of a straight line" *V. A. Sposito*; ASR15 A remark on AS47 "Function minimization using a simplex procedure" *P. R. Benyon* 75

Recent Statistical Algorithms 89

No. 2

An approximate test for use with AID	*A. J. Scott and M. Knott*	103
Interpolating time series with application to the estimation of holiday effects on electricity demand	*S. R. Brubacher and G. Tunnicliffe Wilson*	107
Simultaneous confidence regions for repeat preference testing	*W. M. Kalmijn*	117
Asymptotic mean square prediction error for an autoregressive model with estimated coefficients	*T. Yamamoto*	128
Confidence interval estimation in the inverse power law model	*J. F. Lawless*	123
An analysis of litter respiration at different temperatures	*J. N. R. Jeffers, Doreen M. Howard and P. J. A. Howard*	139
Identification of time series with infinite variance	*G. Rosenfeld*	147

Miscellanea

On a sufficient condition and a necessary condition of L_1 estimation	*V. A. Sposito and W. C. Smith*	154
The connection between methods of estimation in implicit and explicit nonlinear models	*G. R. Dolby*	157

CONTENTS

No. 2 (cont'd)

Page

Book Reviews

Reading and Understanding Applied Statistics. By *S. M. Stahl and J. D. Hennes* 163
Statistical and Mathematical Aspects of Pollution Problems. Edited by *J. W. Pratt* 164
Statistical Methods in Animal Sciences. By *V. N. Amble* 164
Statistics and Econometrics: a Problem-solving Text. By *B. R. Chiswick and S. J. Chiswick* 165

*Statistical Algorithms AS*97–*AS*100

AS97 Real discrete fast Fourier transform *D. M. Monro*; AS98 Spectral test for evaluation of congruential pseudo-random generators *E. R. Golder* (see also AS R18 in No. 3, p. 324); AS99 Johnson curves *I. D. Hill, R. L. Holder and R. Hill*; AS100 Normal–Johnson and Johnson–Normal transformations *I. D. Hill*; ASR16 A remark on AS29 *R. W. M. Wedderburn*; Correction to AS 51 *S. J. Haberman* 166

No. 3

Comparison of forecast and actuality — *G. E. P. Box and G. C. Tiao* 195
The numerical computation of posterior distributions in Bayesian statistical inference — *P. M. Reilly* 201
Principal components and regression by singular value decomposition on a small computer — *J. C. Nash and L. P. Lefkovitch* 210
The use of verbal call systems to call patients from waiting areas to consulting rooms — *R. Gilchrist* 217
The subjective nature of outlier rejection procedures — *D. Collett and T. Lewis* 228
Updating a diagnostic system using unconfirmed cases — *D. M. Titterington* 238
Changes of variance in first-order autoregressive time series models—with an application — *D. W. Wichern, R. B. Miller and Der-Ann Hsu* 248
A unifying tool for linear multivariate statistical methods: the *RV* coefficient — *P. Robert and Y. Escoufier* 257
Computer simulation swindles with applications to estimates of location and dispersion — *G. Simon* 266
Sample size determination for estimation of guarantee times — *M. M. Desu, S. C. Narula and B. Villareal* 275
Comparison of two tests of seasonality in epidemiological data — *A. S. St Leger* 280

Miscellanea

"Squeeze" significance tests — *C. R. Burch and I. T. Parsons* 287
An extension of Ehrenberg's relations between mean weights and heights — *M. el Lozy* 291
A test for synergism between two drugs — *S. C. Darby and M. J. Ellis* 296

Book Reviews

An Introduction to Epidemiology. By *M. Alderson* 300
Statistical Methods for Engineers and Scientists. By *R. M. Bethea, B. S. Duran and T. L. Boullion* 300
Developments in Field Experiment Design and Analysis. Edited by *V. J. Bofinger and J. L. Wheeler* 301
The Analysis of Time Series: theory and Practice. By *C. Chatfield* 301
Data Reduction. By *A. S. C. Ehrenberg* 302
Survival Distributions. By *A. J. Gross and V. A. Clark* 303
Fundamental Statistics for Psychology. By *R. B. McCall* 304
Basic Operational Research. By *P. G. Moore* 304
Applied Multivariate Analysis and Experimental Designs. By *N. K. Namboodiri, L. F. Carter and H. M. Blalock* 305
Elementary Dynamic Programming. By *J. M. Norman* 306
Ecological Diversity. By *E. C. Pielou* 306
Sample Size Choice. By *R. E. Odeh and M. Fox* 307
Econometrics and Economic Theory: essays in Honour of Jan Tinbergen. Edited by *W. Sellekaerts* 308
Statistical Inference. By *S. D. Silvey* 308
Principal Sources of Marketing Information. Compiled by *C. Hull* 308

*Statistical Algorithms AS*101–*AS*104

AS101 Distribution-free confidence intervals *S. C. Narula and M. M. Desu*; AS102 Ultrametric distances for a single linkage dendrogram *C. F. Banfield*; AS103 Psi (digamma) function *J. M. Bernardo*; AS104 BLUS residuals *R. W. Farebrother*; ASR17 Recursive residuals *R. W. Farebrother*; AS R18 Remark on AS 98 *E. R. Golder* 309

Recent Statistical Algorithms 325